

BEST AVAILABLE COPY

Appl. No. 09/975,663

REMARKS/ARGUMENTS

Thorough examination and careful review of the application by the Examiner is noted and appreciated.

The examiner has rejected claims 1, 3-8, 10, 11, and 13-17.

Specification, paragraph 0028 has been amended.

Claims 1, 6, and 11 have been amended.

Claims 1, 3-8, 10, 11, 13, and 14-17 remain in this application.

Accordingly, upon entry of this Response, Claims 1, 3-8, 10, 11, 13, and 14-17 are pending.

The changes in the specification and claims do not introduce new matter but clarify matters shown and described in the application as filed. The foregoing amendments and following remarks are believed to be fully responsive to the Office Action mailed October 7, 2004 and render all currently pending claims at issue patentably distinct over the references cited by the Examiner. The foregoing amendments are taken in the interest of expediting prosecution and there is no intention of surrendering any range of equivalents to which Applicant would otherwise be entitled in view of the prior art. Reconsideration and examination of this application is respectfully requested in light of the foregoing amendments and the following remarks.

EXAMINER'S OFFICE ACTION

Appl. No. 09/975,663

In the October 7, 2004 Office Action (hereinafter "10-7-04 OA") referenced above, the Examiner:

rejected Claims 1, 5 and 16 under 35 USC §103(a) as being obvious over U.S. Patent No. 4,999,671 issued to Farrell et al (hereinafter FARRELL), in view of U.S. Patent No. 4,999,671 issued to Iizuka (hereinafter "IIZUKA");

rejected Claims 3-4, and 15 under 35 USC §103(a) as being obvious over FARRELL, as modified, as applied to claim 1 above, and further in view of U.S. Patent No. 6,247,769 issued to Spitzer et al. (hereinafter "SPITZER");

rejected Claims 6-8, 10-11 and 13-14 under 35 USC §103(a) as being obvious over FARRELL in view of IIZUKA and SPITZER; and

rejected Claims 1 and 17 under 35 USC §103(a) as being obvious over U.S. Patent No. 4,123,126 issued to Querengasser (hereinafter "QUERENGASSER") in view of FARRELL and IIZUKA.

Specification Amendments

The paragraph 0028 was amended to recite the structure of the cells 18 as originally disclosed in FIG. 1B as follows: "The racks 14 comprise shelves 16 carrying cells 18, wherein each cell 18 is parallel to an adjacent cell 18 and wherein each cell 18 is vertically disposed perpendicular to a respective shelf. Each of the cells 18 houses a reticle in a box (not visible in the figures) to vertically support each reticle in a box."

The amendment to paragraph 0028 does not add new matter but instead operates to clarify the structure as originally disclosed in FIG. 1B.

Appl. No. 09/975,663

Rejections under 35 U.S.C. §103

In the 10-7-04 OA:

Claims 1, 5 and 16 stand rejected under 35 U.S.C. §103(a) as being anticipated by as being obvious over FARRELL, in view of IIZUKA;

Claims 3-4, and 15 stand rejected under 35 USC §103(a) as being obvious over FARRELL, as modified, as applied to claim 1 above, and further in view of U.S. Patent No. 6,247,769 issued to Spitzer et al. (hereinafter "SPITZER");

Claims 6-8, 10-11 and 13-14 stand rejected under 35 USC §103(a) as being obvious over FARRELL in view of IIZUKA and SPITZER; and

Claims 1 and 17 stand rejected under 35 USC §103(a) as being obvious over QUERENGASSER in view of FARRELL and IIZUKA.

The rejections of claims 1, 3-8, 10, 11, and 13-17 based on FARRELL, IIZUKA, SPITZER, and QUERENGASSER are respectfully traversed.

DISCUSSION OF PRIOR ART

FARRELL teaches a shiftable storage system having ranges 14, a complex module control system 36 having monitors mounted to the top of the ranges, safety bars 40 (FIG. 1) which extend along corresponding sides of each range 14 at two different heights, and are linked to electrical switches 42 (FIG. 2) connected in the module control system 36. See FARRELL, col. 6, lines 7-11, col. 18, lines 57-61.

Appl. No. 09/975,663

"Ranges 14 include means formed, for example, by shelves 16 and vertical partitions 18 for holding various things such as files or books." Farrell, col. 5, lines 36-38.

"Nine ranges 14 (14-2 through 14-10) **are movable to selectively form an aisle 20**, and for that purpose are provided with wheels (not shown) on the bottoms thereof to form carriages. **Mounting rails 22** are mounted on the floor 24 along which the movable carriages 14 may be moved." Farrell, col. 5, lines 42-44 and FIG. 1.

Farrell, col. 3, lines 11-14 "When a person's presence is so detected in an open aisle, the movable storage element or elements adjacent an open aisle are prevented from moving to close the aisle." col. 3, lines 24- "According to the invention, a monitor or detector detects a person's presence in an open aisle without direct contact between the person and the monitor and in response thereto, the storage system prevents a storage element or elements from moving to close the aisle in which a person has been detected."

"Mobile storage system 10 includes conventional safety bars 40 (FIG. 1) which extend along corresponding sides of each range 14 at two different heights, and are linked to electrical switches referenced generally by 42 (FIG. 2) connected in module control system 36. **Should a range 14 move to close an aisle 20 with a person in it, a safety bar 40 will touch the person (or an object) present in the open aisle 20 and open the associated switch 42 and cause module control system 36 to disable the**

Appl. No. 09/975,663

motors for all storage elements 14 and **stop movement thereof.**"
Farrell, col. 6, lines 7-17.

FARRELL further teaches that electrical motor and gearing may be provided to move each movable range, open and close access aisles if a switch is coupled to the motor to operate the system. See FARRELL, col. 4, lines 47-50; col. 11, lines 19-25. FARRELL teaches mounting of electric motors to each rack 14 as described in NAITO patents 4,033,649 (NAITO '649) and 4,412,772 (NAITO '772). See FARRELL, col. 6, lines 37-42.

More particularly, the NAITO '649 and '772 patents teach that the motor be mounted to the side of a range 14 and coupled to the complex control system for grounding the control system. See generally NAITO '649 and '772.

"As shown in FIG. 2 **on the side wall of the shiftable stack unit 203** is provided a control board 210 which has a power source switch 216 and a special operation switch 217 at the center . . ." NAITO '772, col. 3, lines 34-37.

NAITO '649 uses switches, relays, and contacts connected to terminals of a power source to ground the electric motors mounted to the NAITO article storing device. See NAITO, FIG. 4, col. 5, lines 42-49. "Thus, an automatic cut-off circuit is formed in part, by the timer 76, relays 68, 77 and associated contacts in order to automatically disconnect the motor circuit formed, inter alia, by the electromagnetic switch 65 and relay contacts 66s', 67t, 68s' from the conductors 62, 64 of the power supply." NAITO, col. 8, lines 20-25.

Appl. No. 09/975,663

The NAITO '772 patent uses a grounding relay 310 to ground the shiftable stack unit. See NAITO '772, FIG. 14, col. 6, lines 30-33.

Iizuka teaches a cassette library 2 that houses a plurality of reticle cassettes 4, wherein each reticle cassette is retained on a cassette holder 5, i.e. horizontal shelf of the cassette library 2 such that each cassette is horizontally disposed on the shelf 5. See Iizuka, Figs. 1, 3, 5-7. The cassette library 2 is "made to be easily coupled to and detached from the air-conditioned chamber 1 or the main assembly of the stepper." Iizuka, col. 7, lines 16-20. The cassette library 2 has an elevation station P2 for lifting each shelf 5, an extraction station P3 for removing each reticle 6 along with each associated shelf 5 from the cassette library 2 and for extracting each reticle 6 from an associated reticle cassette 4 and a delivery station P4 for delivering each reticle cassette along with each reticle cassette holder 5 to each processing station. See Iizuka, Figs. 2-3, 6, 7. "In FIG. 7, a cassette 4 having been extracted, **together with its holder 5**, out of the cassette library 2 is conveyed to the reticle extracting station (the second cassette keeping station) P3 . . ." Iizuka, col. 10, lines 25-30.

SPITZER teaches a modular book/computer computer cart 101 having multi-directional swiveling caster-type wheels for moving the cart 101.

QUERENGASSER teaches a compact shelving unit 20 designed to be installed on a floor of a library building **for storing books**. See QUERENGASSER, col. 2, lines 55-59. The shelving unit 20 has

Appl. No. 09/975,663

a pair of plastic tired wheels 61 and 62 that are rollable along the floor 21 and are guided by parallel tracks 41 and 42. See QUERENCASSER, col. 3, lines 55-63.

DISCUSSION OF 35 USC 103(a) REJECTIONS

The Examiner contends in 10-7-04 OA, page 6, clause 10:

"In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "the partitions 18, as shown in FARRELL, Fig. 1 do not appear able to vertically support the single reticle in a box") are not recited in the rejected claim(s).

The present invention provides reticle storing movable rack system according to amended claims 1, 6, and 11 features, inter alia, adjacent vertically disposed cells that are made of metal and electrically connected to the racks by placing the cells on shelves of the racks, wherein each cell vertically houses a reticle in box; tracks that are electrically grounded and are longitudinally positioned in longitudinal alignment with the shelves; racks that have wheels and that are grounded by having wheels connect to the tracks; and conductive floor covering that further assists in the grounding of the racks of the present invention.

Claims 1, 6, and 11 have been amended to recite the features of adjacent vertically disposed cells that are made of metal and electrically connected to the racks by placing the cells on shelves of the racks for vertically supporting reticles in a box.

Appl. No. 09/975,663

More particularly, amended claim 1 is directed to a reticle storing movable rack system **consisting essentially of:**

a plurality of flat tracks fixedly secured to a floor, each of **said flat tracks being grounded,**

a plurality of storage units, each of said storage units comprising a plurality of racks having wheels adapted to be moved along flat tracks of said plurality of flat tracks, **each of said racks being electrically grounded when said rack wheels contact said flat tracks of said plurality of flat tracks, and**

wherein each of said racks comprises a plurality of shelves with plurality of vertically disposed adjacent cells for housing reticles therein , said cells having electrostatic shielding properties, said electrostatic shielding properties being secured by making said cells metallic and electrically connecting them to said racks by placing said cells on each of said plurality of shelves, and wherein each of the plurality of cells houses a reticle in a box to vertically support each reticle in a box.

Also Claim 6 is directed to a reticle storing movable rack system providing:

a plurality of flat tracks fixedly secured to a floor, each of said flat tracks being grounded,

a plurality of storage units, each of said storage units comprising a plurality of racks having wheels adapted to be moved along flat tracks of said plurality of flat tracks, and

wherein each of said racks comprises shelves with plurality of **vertically disposed adjacent cells** for housing

Appl. No. 09/975,663

reticles therein, and wherein each of the plurality of cells houses a reticle in a box to vertically support each reticle in a box,

wherein, with the purpose of imparting antiseismic properties to the system, said shelves are made with a slope directed inside said racks, and

wherein each of said racks is electrically grounded when said rack wheels contact said flat tracks of said plurality of flat tracks and said cells have electrostatic shielding properties.

Also Claim 11 is directed to a reticle storing movable rack system providing:

a plurality of flat tracks fixedly secured to a floor, each of said flat tracks being grounded,

a plurality of storage units, each of said storage units comprising a plurality of racks having wheels adapted to be moved along flat tracks of said plurality of flat tracks, and

wherein each of said racks comprises shelves with plurality of vertically disposed adjacent cells for housing reticles therein, said shelves being made with a slope directed inside said racks and said cells having electrostatic shielding properties, said electrostatic shielding properties are secured by making said cells metallic, electrically joining said metallic cells to said racks by placing said cells on said shelves, and wherein each of the plurality of cells houses a reticle in a box to vertically support each reticle in a box, and electrically grounding said

Appl. No. 09/975,663

rack when said rack wheels contact said flat tracks of said plurality of flat tracks.

Applicant has positively recited the "vertically disposed adjacent cells" in the amended claims 1, 6, and 11.

Support for amending independent claims 1, 6, and 11 is disclosed in original Fig. 1B and in Applicant's Amended Specification, paragraph 0028. "The racks 14 comprise shelves 16 carrying cells 18, **wherein each cell 18 is parallel to an adjacent cell 18 and wherein each cell 18 is vertically disposed perpendicular to a respective shelf.**"

All prior art references cited herein fail to disclose shelves having adjacent vertically disposed cells that are used to vertically support a reticle in a box.

Additionally, Examiner equates the partitions 18 of the FARRELL reference with the adjacent vertically disposed cells that each vertically house a reticle in a box of the present invention.

Applicant disagrees with Examiner's assertion.

Each adjacent vertically disposed cell in the racks of the present invention are adapted to house **"a reticle in a box to vertically support each reticle in a box"** (see Applicant's Specification, paragraph 0028), thus, the cells must be spaced apart in a close manner to each house only one reticle. Reticles are well known in the semiconductor wafer arts to be an

Appl. No. 09/975,663

inherently thin "a transparent ceramic substrate." See Applicant's Specification, paragraph 0005. Thus, the adjacent cells of the present invention are spaced very close together for vertically supporting each thin reticle.

Even if the FARRELL vertical partitions 18 operate to hold "things such as files or books" (See FARRELL, col. 5, lines 37-38), nowhere does FARRELL teach, suggest, or even hint at **vertically** holding individual objects such as a single reticle in a box. Similarly, nowhere do the Iizuka, SPITZER or QUERENGASSER references teach, suggest, or even hint at **vertically** holding individual objects such as the cells that house single reticle in a box the present invention.

In contrast, to the closely spaced apart cells as inherently disclosed in Applicant's Specification and as shown in Applicant's Specification, FIG. 1b, the FARRELL partitions 18 (as shown in FARRELL, FIG. 1) appear to be spaced apart to each hold a plurality of items larger than a single reticle in a box. If a single reticle in a box was placed on the FARRELL shelves, the partitions 18, as shown in FARRELL, FIG. 1 do not appear able to vertically support the single reticle in a box.

Thus, FARRELL fails to teach the cells of the present invention that are adapted to vertically support boxes of reticles.

In order for a reticle 6 to be removed from the cassette library 2 of the Iizuka invention, the cassette 4 along with shell 5 may be elevated to a desired position by the elevation station P2. See Iizuka, Figs. 2-3, 6, 7. The cassette 4 may

Appl. No. 09/975,663

then be removed along with shelf 5 to an extraction station P3. See Iizuka, col. 10, lines 25-30; see also, Iizuka, Figs. 2-3, 6, 7. Also, the cassette library 2 as disclosed in the Iizuka reference is adapted to mate with an air-conditioned chamber or a stepper and the reticles are extracted from the cassette library 2 from only one side of the library 2 as shown in Iizuka, Fig. 6. Thus, the shelves 5 of the reticle library 2 are horizontally disposed to horizontally support each reticle cassette 4.

Unlike the present invention, Iizuka fails to teach or suggest more than one reticle cassettes 4 stored on each shelf 5. The design of the present invention allows a plurality of reticles to be stored in a plurality of cells 18 on each shelf 16. Additionally, Iizuka fails to provide vertical support for each cassette 4 so that a plurality of cassettes 4 may be arranged in a vertical consecutive and adjacent manner on each shelf 5. Unlike Iizuka, the present invention provides a plurality of adjacent and vertically disposed cells that operate to provide vertical support for a plurality of reticle boxes.

Also, unlike the present invention, Iizuka requires that both the shelf 5 and the cassette 4 be removed together to access a reticle. The present invention does not require removal of each shelf 16 to access each reticle box. Instead one or a plurality of reticles may be simultaneously removed from each cell on a shelf 16.

There is no motivation to combine FARRELL with Iizuka to render the present invention. FARRELL operates to store a plurality of objects on each shelf. Iizuka provides a plurality of shelves designed to hold only cassette 4 at a time. Thus, it

Appl. No. 09/975,663

would be feasible to combine FARRELL with Iizuka to render the present invention.

Similar to FARRELL, the SPITZER and QUERENGASSER references, also fail to vertically support an individual reticle box in a cell, unlike the adjacent vertically supported cells of the present invention. Thus, there is no motivation to combine FARRELL alone or in combination with Iizuka, S, or QUERENGASSER to render Applicant's invention.

Examiner further contends in 10-7-04 OA, page 7, clause 11: "Farrell teaches that commercial mobile storage systems are typically made from metal and since the mobile system of Farrell is made from metal, it is inherent that the metal mobile system of Farrell would be grounded.

Also, regarding claims 1 and 17, in 10-7-04 OA, page 5, clause 7, Examiner combines the FARRELL, Iizuka and QUERENGASSER references to equate the tracks and wheels of the QUERENGASSER reference, the partitions 18 of FARRELL reference, and the housing of reticles of the Iizuka reference to render the grounded shelving unit having a plurality of adjacent vertically disposed cells of the present invention .

Applicant disagrees with Examiner's contentions.

The mobile storage unit of the present invention is grounded by having an electrical connection with the plurality of flat tracks fixedly secured to the floor as shown in FIG. 1c.

Appl. No. 09/975,663

The present invention, as recited in independent claim 1 is directed to "each of said racks being **electrically grounded when said rack wheels contact said flat tracks of said plurality of flat tracks.**"

"The racks 14 and tracks 20 are made of metal. The tracks 20 are grounded that is symbolically shown by reference numeral 28." Applicant's Specification, Paragraph 0030.

Thus, the wheels of the present invention must be conductive because the rack is grounded by having wheels connect to the tracks, and additionally, the cells of the present invention are made of metal and are electrically connected to the racks by placing the cells on shelves of the racks. Also, the reticles have electrical properties and are electrically joined to the cells when placed on the shelves.

It is not inherent that all mobile storage systems made of metal be grounded. Not all metal objects are inherently grounded because before grounding can occur, a path to ground must exist. A path to ground is not taught or suggested in FARRELL, Tizuka, or QUERENGASSER unlike the present invention.

Particularly if the mobile storage system designed to hold books, as provided in FARRELL and QUERENGASSER, it is not necessary to ground bookshelves because the contents of the rack, bookshelves are not in danger of being electrically damaged if not properly grounded.

The FARRELL reference fails to show how FARRELL provides an electrical connection between the rack, the shelves and the

Appl. No. 09/975,663

partitions formed within the shelves of the FARRELL mobile storage unit to ground the FARRELL mobile storage unit.

Additionally, unlike the present invention, FARRELL, Iizuka, SPITZER and QUERENGASSER fails to teach or suggest that the tracks are electrically connected to the racks 14 and that that are grounded.

Unlike the present invention, the FARRELL, Iizuka, SPITZER, and QUERENGASSER references lack an electrical connection between what it is intended to hold (files or books) and the ground through cells, shelving and racks (ranges 14 in the FARRELL reference, cassette library 2 in the Iizuka reference, cart 101 in the SPITZER reference, and shelving 20 of the QUERENGASSER reference).

The system disclosed in the FARRELL is intended to store "various things such as files or books" (FARRELL, col. 5, line 38) whereas the present invention stores boxes of reticles which are susceptible to electrostatic discharge and thus must be properly discharged through the cells which hold the reticles. Thus, unlike the present invention, FARRELL fails to teach or disclose any motivation to ground the shelves or partitions that hold the contents of the FARRELL range 14.

Applicant maintains that the FARRELL reference does not seem to suggest the presence of the above-mentioned structural limitation of the applicant's invention in the form of the electrical connection.

Appl. No. 09/975,663

While FARRELL does teach mounting of electric motors to each rack 14 as described in NAITO patents 4,033,649 and 4,412,772 (See FARRELL, col. 6, lines 37-42), both the NAITO '649 and '772 references show electric motors mounted **to a side wall of a rack 14**, there is no teachings in the FARRELL or NAITO references that the mounting of the motors to the rack necessarily means that the entire rack is grounded by wheels and rails electrically connected to the shelves and partitions of the FARRELL and NAITO storage units.

Instead, both the NAITO '649 and '772 references use complex control system to ground the motors used in both references. Unlike the present invention, neither of the NAITO references teach grounding of cells and reticles placed within the shelving units of the racks to ground the motors.

Neither the FARRELL nor the NAITO references teach or suggest grounding the **entire rack** to ground. Even if both references inherently taught grounding of the rack, the inherency would only extend to **a portion of the rack** to which the electrical components and motors are mounted in the FARRELL or the NAITO references, i.e., the outer side wall of the rack to which the motor is mounted, and to a top portion of the rack to which to which monitors of the FARRELL reference are mounted.

Thus, the motors of the FARRELL and NAITO references are mounted to an outside portion of the entire mobile storage system, a side wall, **not inside the rack** or storage unit.

Additionally, FARRELL teaches away from mounting such motors or control systems inside of the rack:

Appl. No. 09/975,663

"Another object of the invention is to provide for such aisle safety without interfering with normal usage of the storage system, and/or without requiring a person to set or activate any controls, and/or **so as not to take up space on those areas of the storage elements** to which other components, controls, et. are typically mounted." FARRELL, col. 2, lines 50-55.

Thus, if a motor or control system were mounted inside of the shelf, the electrical equipment would interfere with the storage capacity of the mobile storage unit.

As explained, supra, the rack of the FARRELL and NAITO references is only part of the mobile storage system and the electrical equipment and **does not** operate to electrically connect the inside portion of the rack between the partitions 18 to ground. Thus, contrary to the Office action assertion, **it is not inherent that an interior portion of the racks be grounded.**

The QUERENGASSER reference provides a compact shelving unit 20 having a pair of PLASTIC TIRED WHEELS 61 and 62 that are rollable along the floor 21. Unlike the slightly conductive wheels of the present invention which provide a path to ground, the plastic wheels of the QUERENGASSER reference are not slightly conductive, and do not provide a path to ground. In contrast, electrostatic charge may be built up in the plastic wheels and thus, the function of the QUERENGASSER wheels operates in a contrary manner to the wheels of the present invention. Thus, there is no motivation to combine FARRELL with QUERENGASSER to render the grounding properties of the present invention.

Appl. No. 09/975,663

The Iizuka reference is silent as to the material used to make the cassette library 2, or shelves 5, and thus, a limitation of a metal grounded library 2 and shelves 5 cannot be read into the Iizuka specification.

Additionally, the FARRELL, QUERENGASSER, and Iizuka references fail to disclose the conductive nature of floor coverings to further advance the grounding of the mobile storage unit, contrary to the teachings of the floor covering disclosed in Applicant's Specification.

Thus, the FARRELL, Iizuka, and QUERENGASSER references fail to provide a path to ground through conductive wheels of the rack as does the present invention.

Examiner asserted on pages 5-6, clause 12 of a previous office action mailed on March 26, 2004 that "In response to applicant's arguments on page 13 regarding the transitional phrases "consisting essentially of" expressly excludes the electrical equipment and safety bar 20" of the Farrell reference, the examiner takes that position that as stated in MPEP 2111.03: "The transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps" and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. . . . If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention."

Appl. No. 09/975,663

"If it is the examiner's considered opinion that the asserted advantages are not sufficient to overcome the rejections(s) of record, he or she should state the reasons for his or her position in the record, preferably in the action following the assertion or argument relative to such advantages. By so doing the applicant will know that the asserted advantages have actually been considered by the examiner and, if appeal is taken, the Board of Patent Appeals and Interferences will also be advised." MPEP §707.07(f).

Applicant asserted in Applicant's June 23, 2004 Response to the March 26, 2004 OA that the addition of the electrical equipment and the safety bar 20 of the FARRELL reference would "materially change the characteristics of applicant's invention" in accordance with the provisions of MPEP 2111.03. Applicant incorporates by reference the arguments asserted in Applicant's June 23, 2004 Response to the March 26, 2004 OA. Examiner did not rebut applicant's argument and therefore, Applicant maintains that Applicant's arguments were persuasive and that Applicant has met Applicant's burden showing that the safety bar 20 of the FARRELL reference would materially change the characteristics of applicant's invention.

With regard to claim 17, claim 17 is directed to "flat tracks positioned in longitudinal alignment with the longitudinal length of the shelves."

In contrast to the tracks of the present invention that are linearly or longitudinally aligned with the shelves 16 of the present invention, FARRELL has mounting rails mounted perpendicular to length of shelf, thereby providing lateral or

Appl. No. 09/975,663

perpendicular movement relative to the longitudinal length of the FARRELL shelves. See FARRELL, FIG. 1.

The primary purpose of the FARRELL invention is to detect when a person is in-between storage units laterally disposed on the rails. "When a person's presence is so detected in an open aisle, the movable storage element or elements adjacent an open aisle are prevented from moving to close the aisle." FARRELL, col. 3, lines 24. "According to the invention, a monitor or detector detects a person's presence in an open aisle without direct contact between the person and the monitor and in response thereto, the storage system prevents a storage element or elements from moving to close the aisle in which a person has been detected." Farrell, col. 3, lines 11-14

Unlike FARRELL, the present invention's main purpose is to store reticles in convenient mobile storage units 12 for easy access to a person placing or retrieving a reticle in a box placed on the shelves 16. Each of the rows 12 of racks 14 are designed to be individually accessed by using the drive assist to linearly or longitudinally open each row, and as shown in FIG. 1C, and FIG. 2.

Also shown in FIG. 2, the rows are closely spaced together, back-to-back to maximize storage space. "To conveniently increase capacity of the system, the rows of racks 14 **can be made double-sided**, that is arranged back-to-back as shown by 14a and 14b in Figure 1. Calculations show that making the racks double-sided and movable can increase the capacity of the idle mask storage up to 250% (say, from 60000 reticles up to 15,000 reticles)." Applicant Specification, paragraph 0034.

Appl. No. 09/975,663

Thus, if a safety bar was mounted to the racks of the present invention and power was then cut off to a drive assist mechanism, access to the shelves 16 would be impossible, thereby preventing access to stored articles and preventing storage of articles waiting to be stored in the back-to-back racks 14.

Therefore, addition of safety bar and equipment that operates in accordance with Farrell's teachings would materially alter the present invention and should not be added to present invention.

With regard to Claims 3-4 and 15, Examiner asserts in the 10-7-04 OA, page 4, clause 6 that since both the FARRELL and SPITZER references are in

"the same field of endeavor, it would have been obvious to one skill in the art to modify the structure of Farrell et al, as modified by having the shelves sloped toward the inside of the racks in order to prevent cargo spillage, as taught by Spitzer, since both teach alternate conventional mobile rack structure, thereby providing structure as claimed. In regard to the slope being about 8 degrees, since applicant fails to disclose the criticality of having the shelves sloping at this specific angle, having the shelves sloping at this specific angle merely amounts to a matter of engineering choice and thus, while being a difference, does not serve in any way to patentably distinguish the claimed invention from the applied prior art of Farrell et al, as modified by Spitzer."

Applicant traverses Examiner's contention that Farrell and Spitzer should be combined because they are from the same "field of endeavor."

Appl. No. 09/975,663

Contrary to Examiner's assertions, Spitzer does not show electrostatic properties and that there is no motivation suggested in the FARRELL reference to combine with Spitzer to have sloped shelves to provide protection during an earthquake. See MPEP 2143.01.

"The mere fact that references can be combined or modified does not render the resultant combination obvious **unless the prior art also suggests the desirability of the combination.** In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (Claims were directed to an apparatus for producing an aerated cementitious composition by drawing air into the cementitious composition by driving the output pump at a capacity greater than the feed rate. The prior art reference taught that the feed means can be run at a variable speed, however the court found that this does not require that the output pump be run at the claimed speed so that air is drawn into the mixing chamber and is entrained in the ingredients during operation. Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.). See also In re Fritch, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992) (flexible landscape edging device which is conformable to a ground surface of varying slope not suggested by combination of prior art references)."

Thus, while FARRELL "may be capable of being modified to" have sloped shelves the way the present system is claimed, "there must be a suggestion or motivation in the reference to do so." Because no such motivation exists in FARRELL it would not have been obvious to combine FARRELL with Spitzer to render Applicant's invention.

Appl. No. 09/975,663

"A statement that modifications of the prior art to meet the claimed invention would have been " 'well within the ordinary skill of the art at the time the claimed invention was made' " because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. Ex parte Levengood, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). See also In re Kotzab, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1318 (Fed. Cir. 2000) (Court reversed obviousness rejection involving technologically simple concept because there was no finding as to the principle or specific understanding within the knowledge of a skilled artisan that would have motivated the skilled artisan to make the claimed invention); Al-Site Corp. v. VSI Int'l Inc., 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999) (The level of skill in the art cannot be relied upon to provide the suggestion to combine references.)." MPEP 2143.01

Thus, contrary to Examiner contention, merely having FARRELL and SPITZER in the "**same field of endeavor**" does not make the combination of FARRELL and SPITZER obvious. Because the "level of skill in the art cannot be relied upon [i.e., or field of endeavor] to provide the suggestion to combine the references, it is impermissible hindsight to combine FARRELL with Spitzer to render Applicant's invention.

Additionally, neither SPITZER nor FARRELL are adapted for storing individual reticles in boxes and modifying FARRELL in view of SPITZER would still fail to render the structure of the present invention. Spitzer does not disclose any suggestion as to the way of modifying the respective structure to meet the needs

Appl. No. 09/975,663

of the present invention. Thus, there is no motivation to combine SPITZER with FARRELL to render Applicant's invention as claimed.

Applicant traverses Examiner's contention that the criticality of the 8° sloped shelves is not specified in Applicant's specification. Applicant's Specification, paragraph 0037 does discuss the desirability of having shelves sloped at an angle of 8° to protect against non-catastrophic earthquakes:

"Though it is believed that the above-described system is relatively stable due to its structure and thus can hold out against a non-catastrophic earthquake, the present invention adds to the system's earthquake-proof features. According to the invention, the shelves 16 are made slant, with a slope directed inside the rack 14, toward its back that is shown in FIG. 1a by dotted double lines and can also be visible in FIG. 2 by an angle between a stanchion 30 and edges 32 of the otherwise rectangular cells 18 placed on the shelves 16. Preferably, the angle is selected to be about 8°. Making the shelves with the slope prevents the boxes with the reticles from falling down out of the cells in the time of earthquake."

Applicant's Specification, paragraph 0037.

The SPITZER reference fails to disclose such an angle, and thus, the sloped shelves in SPITZER that have a slope of less than 8° may not protect against non-catastrophic earthquakes as does the present invention.

The FARRELL, Iizuka, SPITZER, and QUERENGASSER references do not disclose, teach, or suggest adjacent vertically disposed cells that are made of metal and electrically connected to the racks by placing the cells on shelves of the racks, and wherein

Appl. No. 09/975,663

each cell houses a reticle in a box to vertically support each reticle in a box; tracks that are electrically grounded and are longitudinally positioned in longitudinal alignment with the shelves; racks that have wheels and that are grounded by having wheels connect to the tracks; and conductive floor covering that further assists in the grounding of the racks of the present invention.

Independent Claims 1, 6, and 11 has been amended to advance prosecution, thereby, rendering the rejection of those claims, and rejection of the claims which depend from Claims 1, 6, and 11 respectively, under 35 U.S.C. 103(a) moot.

Thus, the present invention, as set forth in the now amended claims 1, 6, and 11, the claims, which depend from claims 1, 6, and 11 respectively, are clearly distinct from the art of record.

The foregoing amendments further clarified some of the features of the reticle storing movable rack system of the present invention. It is believed that the present invention as amended is novel and non-obvious over the reference relied upon by the examiner.

Additionally, as discussed previously, because the reference cited and relied upon by Examiner does not disclose, teach or suggest all of the features alone or in combination of the claimed invention, the 103 rejections are believed to be obviated.

Based on the above, it is respectfully submitted that the claims 1, 6, and 11 are in condition for allowance, which allowance is earnestly solicited. With respect to the remaining

Appl. No. 09/975,663

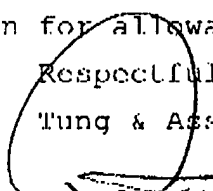
claims, all of which depend from claims 1, 6, and 11, the fact that they claim additional elements or limitations also renders them allowable over FARRELL, T, SPITZER, and QUERENCASSER which allowance is earnestly solicited.

Based on the foregoing, the Applicant respectfully submits that all of the pending claims, i.e. claims 1, 3-8, 10, 11, 13, and 14-17 are now in condition for allowance. Such favorable action by the Examiner at an early date is respectfully solicited.

If for some reason Applicant has not requested a sufficient extension and/or have not paid a sufficient fee for this response and/or for the extension necessary to prevent the abandonment of this application, please consider this as a request for an extension for the required time period and/or authorization to charge our Deposit Account No. 50-0484 for any fee which may be due.

In the event that the present invention is not in a condition for allowance for any other reasons, the Examiner is respectfully invited to call the Applicant's representative at his Bloomfield Hills, Michigan office at (248) 540-4040 such that necessary action may be taken to place the application in a condition for allowance.

Respectfully submitted,
Tung & Associates


Randy W. Tung
Reg. No. 31,311
Telephone: (248) 540-4040

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

☒ BLACK BORDERS

☒ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES

☒ FADED TEXT OR DRAWING

☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING

☐ SKEWED/SLANTED IMAGES

☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS

☐ GRAY SCALE DOCUMENTS

☒ LINES OR MARKS ON ORIGINAL DOCUMENT

☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY

☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.